

**BEFORE THE
PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA**

DOCKET NOS. 2021-143-E & 2021-144-E

In the Matters of:)
)
Application of Duke Energy Progress, LLC)
for Approval of Smart Saver Solar as)
Energy Efficiency Program)
)
Application of Duke Energy Carolinas,)
LLC for Approval of Smart Saver Solar as)
Energy Efficiency Program)
_____)

**REBUTTAL TESTIMONY OF
LON HUBER FOR DUKE ENERGY
PROGRESS, LLC AND DUKE
ENERGY CAROLINAS, LLC**

I. INTRODUCTION AND SUMMARY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Lon Huber, and my business address is 550 South Church Street, Charlotte, North Carolina.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am the Vice President for Rate Design and Strategic Solutions for Duke Energy Corporation (“Duke Energy”), and I support both Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP” and together with DEC, the “Companies”).

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I received a Bachelor of Science Public Administration degree in Public Policy and Management from the University of Arizona in 2009 and a Master’s in Business Administration from the University of Arizona, Eller College of Management, in 2011. I began my career in the utility industry in 2007 when I started working at a solar energy research institute housed within the University of Arizona. In 2010, I served as a governmental affairs staffer for TFS Solar, a solar photovoltaic installation company based in Tucson, Arizona. I was the Regional Policy Specialist for Suntech from September 2011 through December 2012, where I worked to balance cost-effective utility-scale solar with state distributed generation policy goals. From April 2013 to March 2015, I served as a Special Projects Advisor for the Residential Utility Consumer Office in Arizona. From March 2015 to July 2018, I served as the Vice President of Consulting at Strategen Consulting. I also led Navigant’s North American retail regulatory offering from July 2018 through November 2019, where I was responsible for providing expert witness testimony,

1 proceeding strategy, and pricing solutions for clients across the energy sector. Through all
2 of these roles, I worked on rooftop solar issues in numerous jurisdictions.

3 I transitioned to my current role with Duke Energy in November 2019. As part of
4 that role, I am responsible for overseeing the development, analysis, and implementation
5 of pricing and rate design. I am also tasked with leading strategies, innovation, and
6 development of new rate designs and product bundles in response to changing electric
7 customer needs in all of Duke Energy's electric jurisdictions.

8 **Q. HAVE YOU TESTIFIED BEFORE THE PUBLIC SERVICE COMMISSION OF**
9 **SOUTH CAROLINA (THE "COMMISSION") IN ANY PRIOR PROCEEDINGS?**

10 A. Yes, I testified in DEC's solar choice metering proceeding in Docket No. 2020-264-E,
11 DEP's solar choice metering proceeding in Docket No. 2020-265-E (collectively, the
12 "Solar Choice Dockets"), and in the generic docket regarding net energy metering
13 ("NEM") in Docket No. 2019-182-E (the "Generic Docket").

14 **Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN THESE**
15 **PROCEEDINGS?**

16 A. No, I did not.

17 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

18 A. The purpose of my rebuttal testimony is to respond to certain allegations in the direct
19 testimony of ORS witnesses Horii and Morgan. In response to Witness Horii's claims that
20 solar cannot serve as an energy efficiency ("EE") measure, I explain, based on my
21 understanding of Commission findings in the Generic Docket and the Solar Choice
22 Dockets, that solar can, in fact, serve as an EE measure. Notwithstanding the fact that
23 Witness Horii alleges solar cannot serve as EE, Witness Horii goes on to analyze the Smart

Saver Solar as EE Programs proposed in these proceedings (collectively, the “Program”) under applicable EE standards in South Carolina. In doing so, Witness Horii seeks for this Commission to overturn another of its stated positions by claiming that it should reject the use of the Utility Cost Test (“UCT”) as the accepted cost test in the EE context. Witness Horii also makes several questionable assumptions about the inputs to these cost tests, ranging from financing impact to only focusing on a test that treats private investment as a cost. As Witness Duff’s testimony makes clear, the UCT test is the accepted Commission-approved test, and the Program is found to result in substantial system benefits.

Q. ARE YOU INCLUDING ANY EXHIBITS IN SUPPORT OF YOUR TESTIMONY?

A. Yes. I have attached my full resume as **Huber Rebuttal Exhibit 1** to provide additional information regarding my background and experience.

Q. WAS THIS EXHIBIT PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes, it was.

II. RELEVANT BACKGROUND

Q. ORS WITNESSES HORII AND MORGAN DRAW COMPARISONS BETWEEN THE GENERIC DOCKET, THE SOLAR CHOICE DOCKETS, AND THESE EE PROCEEDINGS. PLEASE PROVIDE AN OVERVIEW OF YOUR INVOLVEMENT IN THE GENERIC DOCKET AND THE SOLAR CHOICE DOCKETS.

A. At a high level, it is important to understand the plain language of Act 62, which I believe is intended to advance clean energy in South Carolina on multiple fronts, in part by ensuring that customers have:

1 [A] reasonable opportunity to employ such energy and cost-saving
2 measures as energy efficiency, demand response, or onsite distributed
3 energy resources in order to reduce consumption of electricity from the
4 electrical utility's grid and to reduce electrical utility costs.

5
6 S.C. Code Ann. § 58-27-845(B).

7 As part of this effort, it is my understanding that Act 62 directed the Commission to pave
8 the way for a new generation of NEM in South Carolina through two primary mechanisms:
9 (i) analyzing the current NEM programs (the “Existing NEM Programs”) established
10 pursuant to the Distributed Energy Resource Program Act of 2014 (“Act 236”) and (ii)
11 leveraging lessons learned from that analysis to build upon the next generation of the Solar
12 Choice Program. S.C. Code Ann. § 58-40-20 (C); S.C. Code Ann. § 58-40-20 (F).

13 The Existing NEM Programs were analyzed in the Generic Docket, which required
14 an analysis of the costs and benefits of these programs, as well as a survey of NEM best
15 practices across the country. Order No. 2020-532 at 1, Docket No. 2019-182-E (August
16 12, 2020). I provided testimony in that docket explaining that jurisdictions across the
17 country are increasingly using innovative rate structures to more closely align the costs and
18 benefits of serving NEM customers. These innovative rate structures include things like
19 volumetric time-of-use (“TOU”) rates, demand focused price signals, minimum bills, grid
20 access fees, and non-bypassable charges.

21 In the Companies’ Solar Choice Dockets, I presented testimony explaining
22 precisely how the Companies leveraged the survey of best practices performed in the
23 Generic Docket to achieve the Solar Choice requirements found within S.C. Code Ann. §
24 58-40-20. Specifically, the Companies utilized innovative rate structures in the Solar
25 Choice Tariffs—including, but not limited to, TOU rates, a minimum bill, and a grid access
26 fee—to align the costs to serve these NEM customers. In fact, the Solar Choice Tariffs

1 approved by this Commission have been praised as being the “new standard” in NEM
 2 across the country due to their innovation and care towards avoiding cost shifts to non-
 3 solar customers.¹

4 **Q. PLEASE PROVIDE AN OVERVIEW OF THE COMMISSION’S FINDINGS IN**
 5 **THE GENERIC DOCKET AND THE SOLAR CHOICE DOCKETS AS IT**
 6 **RELATES TO THESE PROCEEDINGS.**

7 A. In the Generic Docket, the Commission evaluated the Existing NEM Programs, and
 8 established a framework for evaluating certain aspects of NEM programs going forward—
 9 including the impacts of solar on the Companies’ systems. Importantly for these
 10 proceedings, the Commission expressly ordered that when evaluating consumption of
 11 behind-the-meter solar energy, that consumption “shall be treated as energy efficiency or
 12 demand-side management resources.” Order No. 2021-569 at 52, Docket No. 2019-182-E
 13 (August 19, 2021).

14 As for the Solar Choice Dockets, the Commission recognized—from the
 15 beginning—that the Solar Choice Tariffs could serve as a platform to work in concert with
 16 additional clean energy and efficiency measures to the benefit of all customers in the
 17 Companies’ service territories:

18 As for Act 62’s broader goal of continuing the deployment of all DERs in
 19 South Carolina, the **Solar Choice Tariffs** properly recognize emerging
 20 technologies and the ability to contribute to **reductions in utility peak**
 21 **electrical demand** and other drivers of electrical utility costs by also
 22 establishing **a platform for customers to adopt other DERs in the future,**
 23 **including energy efficiency measures and battery storage.**
 24

¹ *As California’s solar net metering battle goes to regulators, a focus on reliability may be the best answer*, located here: <https://www.utilitydive.com/news/as-californias-solar-net-metering-battle-goes-to-regulators-a-focus-on-re/606816>.

1 Order No. 2021-390 at 42, Docket Nos. 2020-264-E and 2020-265-E (May
2 30, 2021) (emphasis added).
3

4 Taken together, the plain language of this Commission's own precedent makes clear that
5 solar may function as an EE measure, and that the Solar Choice Tariffs were designed to
6 take advantage of this flexibility in multiple contexts and programs.

7 **III. REBUTTAL TO WITNESS HORII**

8 **Q. ALTHOUGH WITNESS HORII DISPUTES THAT SELF-CONSUMPTION MAY**
9 **ALSO SERVE AS AN EE MEASURE, ARE THERE SPECIFIC ADVANTAGES TO**
10 **BE GAINED IN THESE PROCEEDINGS FROM ALLOWING SOLAR CHOICE**
11 **CUSTOMERS TO ALSO PARTICIPATE IN THE PROGRAM?**

12 A. Yes. The Program passed the applicable EE cost-effectiveness tests without even
13 considering the additional possible customer responses to TOU rates with critical peak
14 pricing events. The rate designs under the Solar Choice Tariffs work well with the Program
15 because—when used in conjunction with the smart thermostat under the Winter BYOT
16 Program—the Program not only reduces consumption from the grid but actually can
17 optimize customer consumption during peak use periods and reduces the utility's peak use
18 demand. The Program and the requirement to participate in Winter BYOT Program are
19 complementary and incentivize customers to reduce their consumption and modify usage
20 patterns, resulting in cost-effective system load reductions that benefit all customers.

21 **Q. ON PAGE 12 OF WITNESS HORII'S DIRECT TESTIMONY, HE DISCUSSES**
22 **THE PROGRAM IN THE CONTEXT OF ALL OF THE COMPANIES'**
23 **CUSTOMERS. HAVE THE COMPANIES ENGAGED CUSTOMERS TO**
24 **DETERMINE WHETHER THEY SUPPORT THE PROGRAM PROPOSED IN**
25 **THESE PROCEEDINGS?**

1 A. Yes, the Companies conducted a survey of 20,000 South Carolina customers and found
2 only 13% opposed the Program, with 53% supporting the Program and 34% who were
3 uncertain, which is likely due to the fact that for some customers, solar photovoltaic (“PV”)
4 systems are a technology with which they are not very familiar. The Companies hired a
5 third-party to hold focus groups to hear from customers with a concentration on
6 understanding those customers who were uncertain about their support and to learn about
7 how to better reach customers through program messaging. The result of these focus
8 groups is that when initially uncertain customers better understood the Program, their
9 opinions were neutral or turned to supportive of the Program.

10 **Q. ON PAGE 15 OF HIS DIRECT TESTIMONY, WITNESS HORII DISCUSSES THE**
11 **UCT AND TOTAL RESOURCE COST (“TRC”) TESTS. DO YOU AGREE WITH**
12 **HIS RELIANCE ON THE TRC AND VIEW OF THE COST-EFFECTIVENESS OF**
13 **THE PROGRAM?**

14 A. No. Although Witness Duff addresses the relevant tests in more detail, it should be noted
15 that the TRC provides a limited lens and treats private investment from customers as a cost.
16 While this can be a valuable cost test, it is important to have additional cost test
17 perspectives. Looking at numerous cost tests, it is clear that this is a very cost-effective
18 program. Witness Duff clearly explains in his testimony that the Program passes the UCT,
19 TRC, and RIM cost tests. Although it is noteworthy that the Program passes the
20 notoriously tough RIM test—which many standard EE measures do not pass—more
21 importantly, they pass the UCT, which is the definitive test in South Carolina.

22 **Q. IN DISCUSSING THE TRC TEST, DOES WITNESS HORII ADEQUATELY**
23 **CONSIDER THE IMPACT OF FINANCING?**

1 A. No, he does not. Considering the large, up-front investment needed to purchase a solar PV
 2 system, many customers opt to lease or finance their systems instead of choosing an up-
 3 front payment purchase. Witness Horii fails to recognize that a large portion of the market
 4 is third-party owned solar or financed solar. In South Carolina 31.5% of the solar
 5 installations are leased and nationally more than 40% of installations are financed through
 6 loans.² In addition to mitigating the up-front payment requirement for customers, the costs
 7 may be decreased for customers due to leasing companies' access to business and tax
 8 advantages that are not available to up-front payment customers. While financing might
 9 not change the total amount of the customer's out-of-pocket cost, spreading the costs out
 10 over time would likely decrease the net present value of the investment costs and result in
 11 a materially higher TRC. By disregarding the large number of customers who lease or
 12 finance their systems, Witness Horii is ignoring the economics of these financing structures
 13 and thereby artificially lowering the TRC results for the Program.

14 **Q. ORS WITNESS HORII ESTIMATES ADOPTION OF RESIDENTIAL ROOFTOP**
 15 **SOLAR WILL BE THE SAME WITH THE INCENTIVE AS UNDER THE PRE-**
 16 **SOLAR CHOICE TARIFFS. DO YOU AGREE WITH THIS ASSERTION?**

17 A. No. The confidential forecast shared with the ORS pursuant to a Confidentiality
 18 Agreement utilized the Companies' traditional methodology for forecasting NEM
 19 adoption, which is based on a regression between simple payback period and historical
 20 adoption. While this methodology remains the best methodology the Companies have at

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<http://energy.sc.gov/files/solar%20data%202020/Cumulative%20Solar%20installations%20lease%20and%20purchases.pdf>; <https://www.greentechmedia.com/articles/read/solar-loans-are-now-the-dominant-financing-product>

1 their disposal to-date, the methodology's reliance on a historical relationship is problematic
2 for this purpose. The new Solar Choice Tariffs utilize best practices to eliminate cross-
3 subsidies, while also sending the right price signals to customers as they consider
4 combining solar with other distributed energy technologies, such as smart thermostats.
5 These more complex rate designs will require more explanation and a willingness on the
6 part of customers to understand these complexities. Furthermore, the more complex rate
7 design may cause potential customers to feel less certain that specific bill savings will
8 actually materialize. For these reasons, even if the payback period between the pre-Solar
9 Choice Tariffs and the Solar Choice Tariffs with the incentive were similar, actual adoption
10 is likely to be different. Finally, Witness Horri focused on RS customers, but as discussed
11 by Witness Duff, most RS customers likely do not have electric heating and thus are not
12 the relevant group to analyze for the purposes of estimating free-ridership. The vast
13 majority, if not virtually all customers eligible for the incentive will be on rate schedule
14 RE.

15 **Q. DO YOU AGREE WITH WITNESS HORII THAT, BASED ON THE**
16 **COMPANIES' MODELING OF ADOPTION, THE EE INCENTIVE WILL HAVE**
17 **A LIMITED EFFECT IN DRIVING ROOFTOP SOLAR ADOPTION?**

18 A. No, the incentive is expected to be a major driver of adoption of rooftop residential solar
19 systems. An up-front incentive is more valuable than potential future bills savings for the
20 following reasons:

- 21 • It is provided up-front, which means it is more valuable from a net present value
22 perspective.

- 1 • It reduces the total amount of capital that needs to be financed, which is critical for
- 2 customers without access to low-cost capital, such as certain low-income
- 3 customers.
- 4 • Unlike future bill savings, there is no difficulty in predicting the dollar amount of
- 5 an up-front incentive. This lower risk makes the incentive more valuable than
- 6 future bill savings.
- 7 • An up-front incentive is an important marketing tool for rooftop solar installers,
- 8 and this marketing value is not captured in a payback period calculation.

9 For all of these reasons, it is expected that the Program will enhance the adoption of rooftop
10 solar.

11 **Q. DOES THIS CONCLUDE YOUR PREFILED REBUTTAL TESTIMONY?**

12 A. Yes, it does.



Lon Huber
Lon.Huber@Duke-Energy.com

Experience

Vice President – Rate Design and Strategic Solutions

Nov 2019 -
Duke Energy – Charlotte, NC

Director – North American Retail Regulatory Offering

July 2018 - Nov 2019
Navigant Consulting – New York, NY

Vice President – Head of Consulting

MAR 2015 - JULY 2018
Strategen Consulting – Berkeley, CA

Special Projects Advisor

APR 2013 - MAR 2015
Arizona's Residential Utility Consumer Office (RUCO) – Phoenix, AZ

Founder

DEC 2010 - JAN 2014
Next Phase Energy – Tucson, AZ

Manager – Policy Specialist

SEP 2011 - DEC 2012
Suntech America – San Francisco, CA

Finance & Policy Lead

SEP 2010 - SEP 2011
TFS Solar – Tucson, AZ

Congressional Energy Fellow

JAN 2009 - MAY 2009
Washington DC

Policy Program Associate

AUG 2007 - SEP 2010
University of Arizona Research Institute for Solar Energy – Tucson, AZ

EDUCATION

Masters of Business Administration
Eller College of Management, 2011

BS, Public Policy and Management,
University of Arizona, 2009

EDUCATION/CERTIFICATIONS

Instructor – FRI's [Transformational rate design course](#)

Microsoft Office Excel Specialist

NARUC Utility Rate School Graduate

AWARDS

Fortnightly Under 40 and Top Innovator Honor Roll – Public Utilities Fortnightly

2018 Innovator of the Year – Utility Dive

The Phil Symons Award – Energy Storage Association

40 under 40 – Arizona Daily Star

Young Alumni Award and Outstanding Professional Staff Member – University of Arizona